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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,252	01/18/2001	Daniel A. Gilmour	513AM	8168

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[REDACTED] EXAMINER

LEE, JINHEE J

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2831

DATE MAILED: 03/26/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

*Supplemental
Office Action Summary*

Application No.

09/765,252

Applicant(s)

GILMOUR, DANIEL A.

Examiner

Jinhee J Lee

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) Interview Summary (PTO-413) Paper No(s) _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Item 29.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because of the following:

Item 42 on figure 5 is not leading to inner edge of the hole as described in the specification on page 4 line 15.

3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

4. The disclosure is objected to because of the following informalities:

At page 6 line 18, "flange portion 26' " has a typographical error. Examiner suggests, "flange portion 26" instead to correct a typographical error.

Appropriate correction is required.

Claim Objections

5. Claim 20 is objected to because of the following informalities:

On line 2, the phrase "each have a pin" has grammatical error. Examiner suggests "each having a pin" instead to correct the grammatical error.

On line 6, the phrase "apertures length" has grammatical error. Examiner suggests "aperture's length" instead to correct the grammatical error.

On line 7, the phrase "aperture length" has grammatical error. Examiner suggests "aperture's length" instead to correct the grammatical error.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-6, 9-16 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the circumferential edge" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the inner circumferential edge" in line 5. There is insufficient antecedent basis for this limitation in the claim. This limitation is also stated in claim 5, line 2.

Claim 3 recites the limitation "the plurality of glass seals" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the respective plurality of collars" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the respective plurality of pins" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the aperture plate" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the diameter length" in line 3. This is confusing. Specify which diameter length, of the seal or the pin.

Claim 18 recites the limitation "the glass seal" in line 1. There is insufficient antecedent basis for this limitation in the claim. This limitation is also stated in claim 18, lines 2-3.

Claim 18 recites the limitation "the group" in line 2. There is insufficient antecedent basis for this limitation in the claim. This limitation is also stated in claim 18, line 4.

Claim 18 recites the limitation "the aperture plate" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim. This limitation is also stated in claim 20, line 6.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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9. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pryce et al. (5669763) in view of Blumenthal et al. (5683108).

Re claim 1, Pryce et al. substantially discloses a sealed electrical fitting for an automotive fuel tank comprising: a wall of the fuel tank, the wall having an opening defined by an edge; a flange portion (2) having a peripheral edge and a hole defined by an inner edge, the outer peripheral edge engaged to the circumferential edge of the wall; and a plurality of pins (38) penetrating a seal. (see figures 1-2 and column 2 line 66-column 3 line 2 according to the numbering in the middle). Pryce et al. does not explicitly disclose the glass seal disposed radially inward. However, Blumenthal et al. teaches of a sealed electrical fitting with glass seal (164, 166) disposed radially inward (see figures 4 and 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass seal disposed radially inward of Blumenthal et al. on seal of Pryce et al. in order to provide fluid tight sealing engagement.

Re claim 2, note that the assembly of Pryce et al. includes a sealed electrical fitting further comprising a tubular housing (42) transversely extending through the flange portion, the tubular housing having an outer surface and an inner surface, the outer surface engaged to the inner edge of the flange, the inner surface engaged to the seal (see figures 1-2).

Re claim 3, the assembly of Pryce et al. as modified by teachings of Blumenthal et al. discloses the claimed invention except for the thermal expansion rate of the flange portion and the tubular housing greater than the thermal expansion rate of the plurality

of glass seals. It would have been obvious to one having ordinary skill in the art at the time the invention was made to state that the thermal expansion rate of the flange portion and the tubular housing (made of metal) is greater than the thermal expansion rate of the plurality of glass seals since it was known in the art that metal and metal alloys have greater thermal expansion rate than glass.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pryce et al. in view of Blumenthal et al., as applied to claim 3 above, and further in view of Ring et al. (3898731).

Re claim 4, the device of Pryce et al. as modified by teachings of Blumenthal et al. discloses a sealed fitting as set forth in claim 3 above. It does not explicitly disclose the glass seal that is barium alkali glass having electrical insulating properties, the plurality of pins that are nickel iron, and the flange portion and tubular housing that are steel. However, Ring et al. teaches of a glass seal that is barium alkali glass having electrical insulating properties, the plurality of pins that are nickel iron, and the flange portion and tubular housing that are steel (see column 3 lines 44-46, lines 54-56 and column 4 lines 11-12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass seal of barium alkali glass having electrical insulating properties, the plurality of pins that are nickel iron, and the flange portion and tubular housing that are steel of Ring et al. on electrical fitting of Pryce et al./Blumenthal et al. in order to provide annealing of sealing.

11. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pryce et al. in view of Blumenthal et al. in further view of Ring et al. as applied to claim 4 above, and further in view of Korner et al. (3825669).

Re claim 5, Pryce et al. in view of Blumenthal in further view of Ring et al. discloses an electrical fitting as set forth in claim 4 above. It does not explicitly disclose an outer surface of the tubular housing and the inner circumferential edge of the flange that form a seam, the seam selected from a group consisting of a brazed joint, a soldered joint, and a welded joint. However, Korner et al. teaches of an electrical fitting with the outer surface of the tubular housing and the inner circumferential edge of the flange that form a seam, the seam selected from a group consisting of a brazed joint, a soldered joint, and a welded joint (see column 2 lines 12-14). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the seam of Korner et al. on electrical fitting of Pryce et al./Blumenthal et al./Ring et al. in order to provide sealing means.

Re claim 6, note that the teaching of Blumenthal et al. includes providing an electrical fitting wherein the plurality of pins each have a diameter length, and the glass seal has a distance between pin length which is equal to or greater than the diameter length (see figure 6).

12. Claims 7-10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pryce et al. (5669763) in view of Itameri-Kinter et al. (4964788).

Re claim 7, Pryce et al. substantially discloses a sealed electrical fitting for an automotive fuel tank comprising: a wall of the fuel tank, and a plurality of pins (38)

penetrating the wall. (see figures 1-2 and column 2 line 66-column 3 line 2 according to the numbering in the middle). Pryce et al. does not explicitly disclose the glass seal disposed hermetically between the wall and the plurality of pins. However, Itameri-Kinter et al. teaches of a sealed electrical fitting with glass seal (76) disposed hermetically between a wall and a plurality of pins (see figures 2-4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hermetic glass seal of Itameri-Kinter et al. on seal of Pryce et al. in order to provide electric current through the wall.

Re claim 8, note that the assembly of Pryce et al. includes a sealed electrical fitting wherein the wall has an opening, a circumferential edge, and a flange portion, the opening defined by the circumferential edge, the flange portion having an outer peripheral edge engaged to the circumferential edge of the wall, the flange portion penetrated by the plurality of pins, at least one glass seal disposed sealingly between the flange portion and the plurality of pins (see figures 1-2).

Re claim 9, note that the assembly of Itameri-Kinter et al. includes a sealed electrical fitting wherein flange portion (50) has a plurality of collars (52) defining a plurality of apertures, each one of the plurality of pins extending through a respective one of the plurality of apertures, at least one glass seal being a plurality of glass seals, each one of the plurality of glass seals disposed hermetically between each one of the respective plurality of collars and each one of the respective plurality of pins (see figure 2).

Re claim 10, the assembly of Pryce et al. as modified by teachings of Itameri-Kinter et al. discloses the claimed invention except for the thermal expansion rate of the aperture plate greater than the thermal expansion rate of the plurality of glass seals. It would have been obvious to one having ordinary skill in the art at the time the invention was made to state that the thermal expansion rate of the aperture plate (made of metal) is greater than the thermal expansion rate of the plurality of glass seals since it was known in the art that metal and metal alloys have greater thermal expansion rate than glass.

Re claim 17, Pryce et al. discloses an electrical fitting with a wall of the fuel tank with an opening with an edge; a flange portion with a peripheral edge and a hole defined by an inner edge and the peripheral edge engaged to the edge of the wall opening; a plurality of pins, each pin extending through a respective one of the plurality of apertures. It does not explicitly disclose an aperture tray with a peripheral edge, a plurality of collars with plurality of apertures, the peripheral edge of the aperture engaged to the inner edge of the flange portion; and plurality of hermetic glass seals between the pins and collars. However, Itameri-Kinter et al. teaches of an electrical fitting with an aperture tray (48) with a peripheral edge, a plurality of collars (52) with plurality of apertures, the peripheral edge of the aperture engaged to the inner edge of the flange portion; and plurality of hermetic glass seals (76) between the pins and collars (see figures 2-4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the electrical fitting of Itameri-Kinter et al. on electrical fitting of Pryce et al. in order to provide electric current through the wall.

13. Claims 11-16, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pryce et al. in view of Itameri-Kinter et al. as applied to claims 10 and 17 above, and further in view of Ring et al. (3898731).

Re claim 11, the device of Pryce et al. as modified by teachings of Itameri-Kinter et al. discloses a sealed fitting as set forth in claim 10 above. It does not explicitly disclose the glass seal that is barium alkali glass, the plurality of pins that are nickel iron, and the flange portion that is steel. However, Ring et al. teaches of a glass seal that is barium alkali glass, the plurality of pins that are nickel iron, and the flange portion that is steel (see column 3 lines 44-46, lines 54-56 and column 4 lines 11-12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass seal of barium alkali glass, the plurality of pins that are nickel iron, and the flange portion that is steel of Ring et al. on electrical fitting of Pryce et al./Itameri-Kinter et al. in order to provide annealing of sealing.

Re claim 12, note that the assembly of Itameri-Kinter et al. includes glass seals that are annular.

Re claim 13, the assembly of Pryce et al. as modified by teachings of Itameri-Kinter et al. and Ring et al. discloses the claimed invention except that the plurality of pins each have a diameter length and the seal has an outer diameter length which is two and one half times that of the diameter length of the pins. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plurality of pins each having a diameter length and the seal having an outer diameter length which is two and one half times that of the diameter length of the pins,

since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Re claim 14, the assembly of Pryce et al. as modified by teachings of Itameri-Kinter et al. and Ring et al. discloses the claimed invention except that the axial length of the glass seals that are equal to the outer diameter length of the glass seal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the axial length of the glass seals that are equal to the outer diameter length of the glass seal, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Re claim 15, the assembly of Pryce et al. as modified by teachings of Itameri-Kinter et al. and Ring et al. discloses the claimed invention except that the flange portion has a collar separation length equal to or greater than the outer diameter length of the glass seal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the flange portion with a collar separation length equal to or greater than the outer diameter length of the glass seal, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claim 16, the assembly of Pryce et al. as modified by teachings of Itameri-Kinter et al. and Ring et al. discloses the claimed invention except that the flange

portion has a peripheral edge to collar length which is equal to or greater than the outer diameter length of the glass seal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the flange portion with a peripheral edge to collar length which is equal to or greater than the outer diameter length of the glass seal, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claim 18, the device of Pryce et al. as modified by teachings of Itameri-Kinter et al. discloses a sealed fitting as set forth in claim 17 above. It does not explicitly disclose the glass seal that is selected from material group consisting of barium alkali, borosilicate, and soda lime, the glass seal having electrical insulating properties, the plurality of pins that are nickel iron, and the aperture plate material selected from the group consisting of stainless steel and steel. However, Ring et al. teaches of a glass seal that is barium alkali glass, the plurality of pins that are nickel iron, and the tray portion that is steel (see column 3 lines 44-46, lines 54-56 and column 4 lines 11-12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass seal of barium alkali glass, the plurality of pins that are nickel iron, and the flange portion that is steel of Ring et al. on electrical fitting of Pryce et al./Itameri-Kinter et al. in order to provide annealing of sealing.

Re claim 19, note that the fitting of Itameri-Kinter et al. includes seam between the flange and the aperture tray selected from a group consisting of a brazed joint, soldered joint and welded joint (see column 4 lines 60-63).

Re claim 20, the assembly of Pryce et al. as modified by teachings of Itameri-Kinter et al. and Ring et al. discloses the claimed invention except plurality of glass seals each having a seal diameter length equal to a seal thickness length, the seal diameter length equal to or greater than two and one half times the pin diameter length; and the aperture plate having a distance between adjacent aperture's length and a distance between peripheral edge and aperture's length, the distance between apertures length that is equal to or greater than the seal diameter length, the distance between peripheral edge and aperture length that is equal to or greater than the seal diameter length. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the plurality of glass seals each having a seal diameter length equal to a seal thickness length, the seal diameter length equal to or greater than two and one half times the pin diameter length; and the aperture plate having a distance between adjacent aperture's length and a distance between peripheral edge and aperture's length, the distance between apertures length that is equal to or greater than the seal diameter length, the distance between peripheral edge and aperture length that is equal to or greater than the seal diameter length, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oliver et al., Probst, Tamura et al., Teaford, Arai, Kashimoto et al., Acker et al., Cooper et al., Numbers et al., Herster, Chupak, McClearn and Stanevich et al. are cited to show various components of an electrical fitting.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee Lee whose telephone number is 703-306-0154. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 703-308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

jjl
January 23, 2002

Dean A. Reichard 1-24-02
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